

REMARKS

The application is believed to be in condition for allowance.

However, should there be any outstanding issues, it is requested that the undersigned attorney be contacted to arrange an interview in order to resolve these issues, whether substantive or non-substantive.

It is noted that the last Official Action was issued subsequent to an RCE application and therefore was a non-final Official Action, as correctly shown on the Office Action Summary sheet.

Applicants note that an English translation of JP 06-182518 was provided with the Amendment of October 14, 2005.

Attached are illustrations 1-6, which illustrations are NOT drawings amendments.

There are no formal matters outstanding.

Claims 1 and 4 are independent and have been amended.

New claims have been added.

Support for the amendments and new recitations can be found at least as illustrated by Figure 2 (claims 19-20) showing adjacent coils having differences of 180 degrees and specification page 11, lines 15-24. Supplying only a single-phase AC current (claims 15-16) is intended to avoid reading "a single-phase power supply" onto a "three-phase power supply".

Claims 17-18 clarifies that each coil is connected to one single-phase power supply.

The claims stand rejected as anticipated by JP 6182518 (JP '518).

On page 3 of the Official Action, it is stated that the three-phase current of JP '518 is capable of generating a single phase.

This statement is incorrect.

Illustrations 1-6 are provided to explain why the JP '518 device cannot provide a single-phase AC current to each coil, i.e., as recited by claim 1 "a single-phase AC current power supply connected to each coil for supplying a single-phase AC current to each coil".

Illustrations 1 and 2 show the arrangement of the phase of each coil attached to each excitation circuit (41 to 59) realized in the apparatus shown in Drawings 3 and 5 of JP '518. Function generators 81 to 86 give energization duty data for sine wave current, the phase of which is decided by synchronization pulses Pb0, Pb120, Pb240, Pb180, Pb60 and Pb300, respectively (see [0018] to [0023]).

For example, function generator 81 provides duty data of phase  $0^\circ$  to energization pulse generators 61, 64 and 67, that provides sine wave current of phase  $0^\circ$  to excitation circuits 41, 44 and 47, respectively (Illustration 1). Similarly, function generator 82 provides duty data of phase  $120^\circ$  (i.e. having phase

difference of  $120^\circ$  with sine wave current generated according to the function generator 81) because of the synchronization pulse Pb120 (Illustration 2), to energization pulse generators 62, 65 and 68, that provides sine wave current of phase  $120^\circ$  to excitation circuits 42, 45 and 48, respectively (Illustration 1). Similarly, function generators 83, 84, 85 and 86 in result provides sine wave current of phase  $240^\circ$ ,  $180^\circ$ ,  $60^\circ$  and  $300^\circ$ , respectively.

Illustration 3 shows that the arrangement of phase of coils shown in Figure 2 in the present application cannot be realized by the power supply shown in Drawings 3 and 5 in JP '518. Excitation circuits 41 and 44 are connected to energization pulse generators 61 and 64, respectively. Both of the energization pulse generators 61 and 64 are connected to the same function generator (i.e. 81), and therefore must have the same phase. At the same time, the phase created by the excitation circuits 41 must be  $0^\circ$  and the phase created by the excitation circuits 44 must be  $180^\circ$ . In conclusion, the same function generator 81 must create function for  $0^\circ$  and  $180^\circ$  at the same time, which is impossible.

Illustration 4 shows an example of the modification to realize the phase arrangement of Figure 2, this application based on the apparatus of Drawings 3 and 5 of JP '518. Connections between function generators (81 to 86) and energization pulse generators 61 to 79 must be entirely changed. For example, in

original Drawing 3 (or Illustration 1), function generator 81 is connected to excitation circuits 41, 44 and 47 via energization pulse generators 61, 64 and 67, respectively. Further, function generator 82 is connected to excitation circuits 42, 45 and 48 via energization pulse generators 62, 65 and 68, respectively. In Illustration 4, in contrast, function generator 81 is connected to excitation circuits 41, 43, 45, 47, 49, 51, 53, 55, 57 and 59 via energization pulse generators 61, 63, 65, 67, 59, 71, 73, 75, 77 and 79, and 64, respectively, and function generator 82 is not connected to any energization pulse generators.

However, this only means that the power generator can be modified to provide single-phase AC current, and it does not mean that the power generator can provide single-phase AC current as it is. In other words, some change is necessary to realize the phase distribution shown in Figure 2.

Illustrations 5 and 6 show how the power supply in JP '518 can be modified to realize phase distribution of Figure 3 of this application. If synchronization pulses introduced in function generators 82 and 83 is replaced by  $Pb0^\circ$  and that introduced in 85 and 86 is replaced by  $Pb180^\circ$  as shown in Illustration 6, the arrangement of the phase in Figure 3 will be realized, without any change of the connections (Illustration 5). However, again, such modification requires the change in structure or programming of pulse generating circuit 90, or the

change in the connections between pulse generating circuit 90 and function generators 82, 83, 85 and 86.

JP '518 does not suggest the necessary modifications so as to satisfy the present claims. The power supply in JP '518 is for energizing the alternating current for a linear drive (claim 1). If any change (even if apparently small change) results in losing linear drive force, it would be a substantial change that goes beyond the disclosure of JP '518, for a skilled person in the art. As has already been demonstrated in former responses, single-phase AC current as claimed in the application does not generate such linear drive force at all. Therefore, any modification that allows the power supply to provide single-phase current, and thus loses ability to generate linear drive force, is a substantial change and JP '518 would not operate as intended.

Regarding claims 15 and 16, JP '518 does not disclose any power supply that only provides single-phase AC current.

Regarding claims 17 and 18, the above Remarks clearly demonstrated such phase distribution generated by single-phase AC current supply is not disclosed in JP '518.

Regarding claims 19 and 20, as has already been demonstrated, clear and definite change of connection between elemental units is necessary for the power supply of JP '518 to realize claimed phase distribution (i.e. that disclosed in Figure 2a), and therefore JP '518 does not disclose such feature.

From the above, it is clear that JP '518 does not anticipate.

Nor does JP '518 render the present claims obvious. Any motivation to modify JP '518 in a manner necessary to achieve the presently claimed invention would arise from improperly application of hindsight. Further, the analysis is not whether the prior art had the technology to achieve the invention or could be modified to achieve the present invention, but rather the analysis is whether the invention is taught or suggested by the relevant prior art (without benefit of the present application).

Numerous Federal Circuit decisions emphasize that obviousness rejections over a combination of elements found in two or more prior art references are improper unless the prior art suggests their combination. *E.g. McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1351-52, 60 USPQ2d 1001, 1008 (Fed. Cir. 2001) (" 'the central question is whether there is reason to combine [the] references,' a question of fact drawing on the *Graham* factors"); *In re Kotzab*, 208 F.3d 1365, 1370, 54 USPQ2d 1308, 1316 (Fed. Cir. 2000) ("to establish obviousness based on a combination of the elements disclosed in the prior art, there must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the applicant.").

*In re Dembiczak*, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999) ("Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is a rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references.") ("The range of sources available [to show a suggestion, teaching, or motivation to combine], however, does not diminish the requirement for actual evidence. That is, the showing must be clear and particular."

"When the incentive to combine the teachings of the references is not readily apparent, it is the duty of the examiner to explain why the reference teachings are proper." *Ex parte Skinner*, 2 USPQ2d 1788, 1790 (Bd. App. & Int'f 1986), see also *Ex parte Clapp*, 277 USPQ 972, 973 (Bd. App. & Int'f 1985) (noting that, to support obviousness, "either the references must expressly or impliedly suggest the claimed combination or the examiner must present a convincing line or reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references. . . . [S]implicity and hindsight are not proper criteria for resolving the issue of obviousness.")

The claims as pending are therefore both novel and non-obvious.

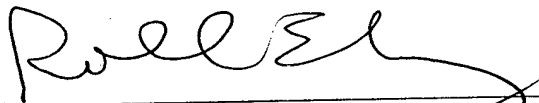
In view of these amendments and the above explanation, reconsideration and allowance of all the claims are respectfully requested.

Applicants believe that the present application is in condition for allowance and an early indication of the same is respectfully requested.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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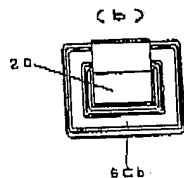
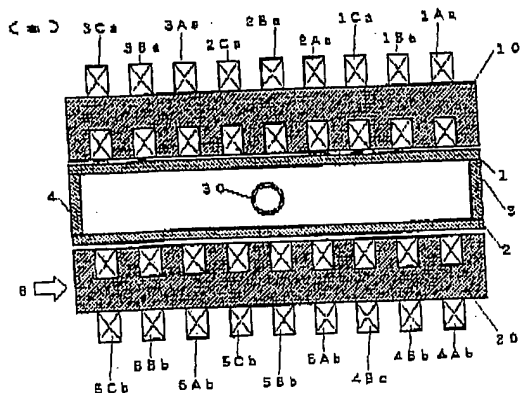
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APPENDIX:

The Appendix contains the following items:

- Illustrations 1-6 which illustrations are NOT drawings  
amendments



[Drawing 3]

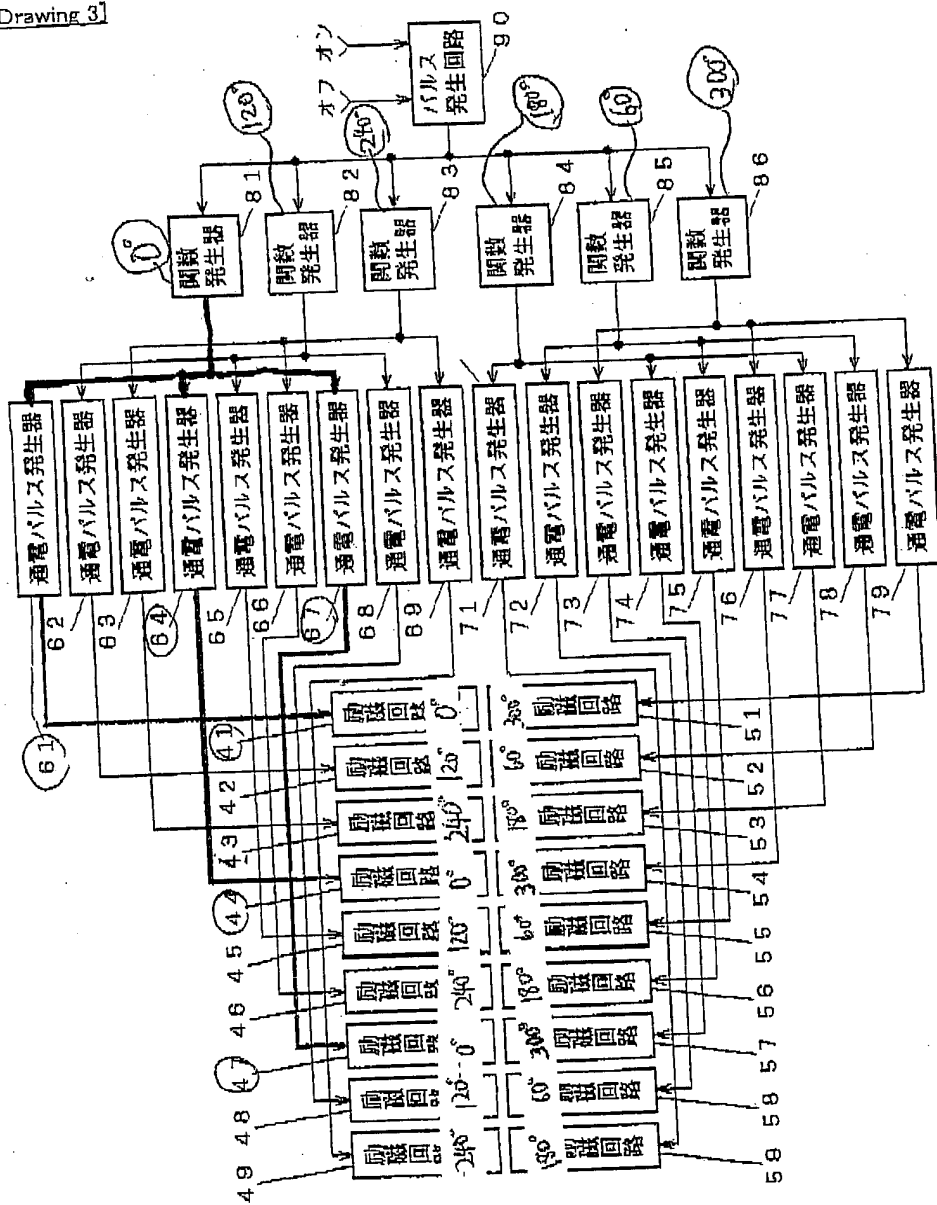
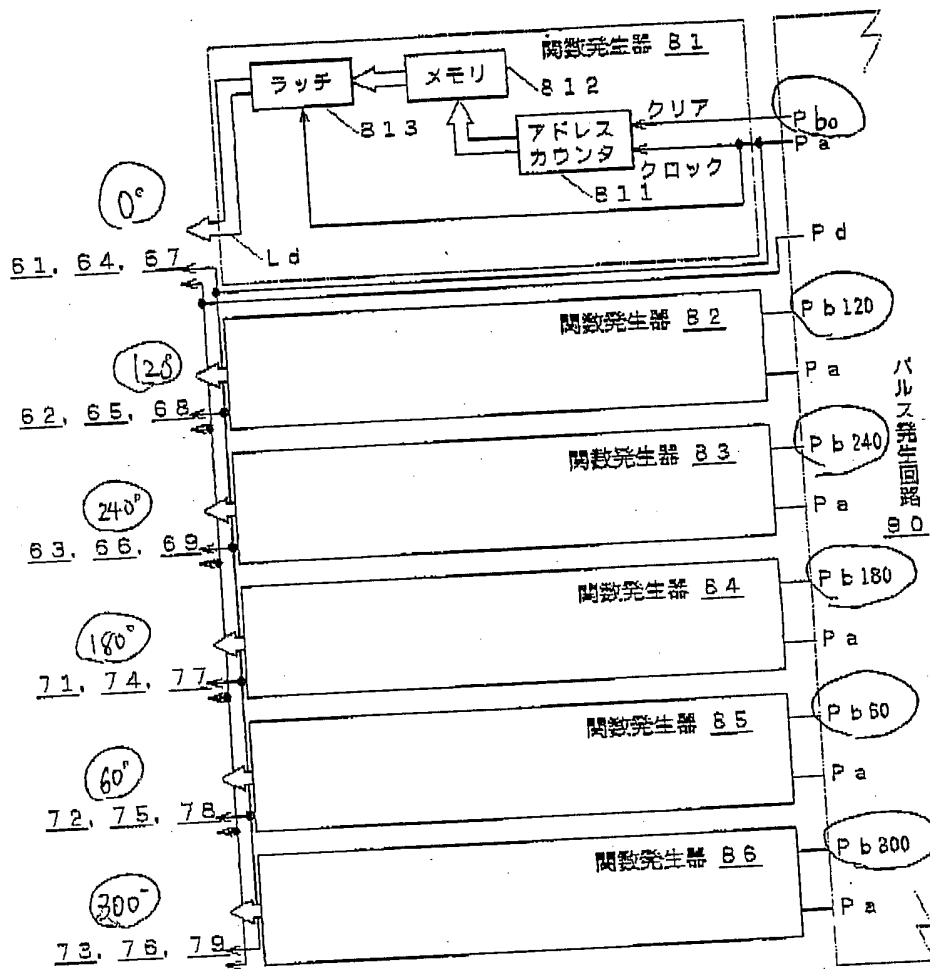


Illustration 1

(This is not a drawing or a drawing amendment)



[Drawing 6]

Illustration 2

(This is not a drawing or a drawing amendment)

[Drawing 3]

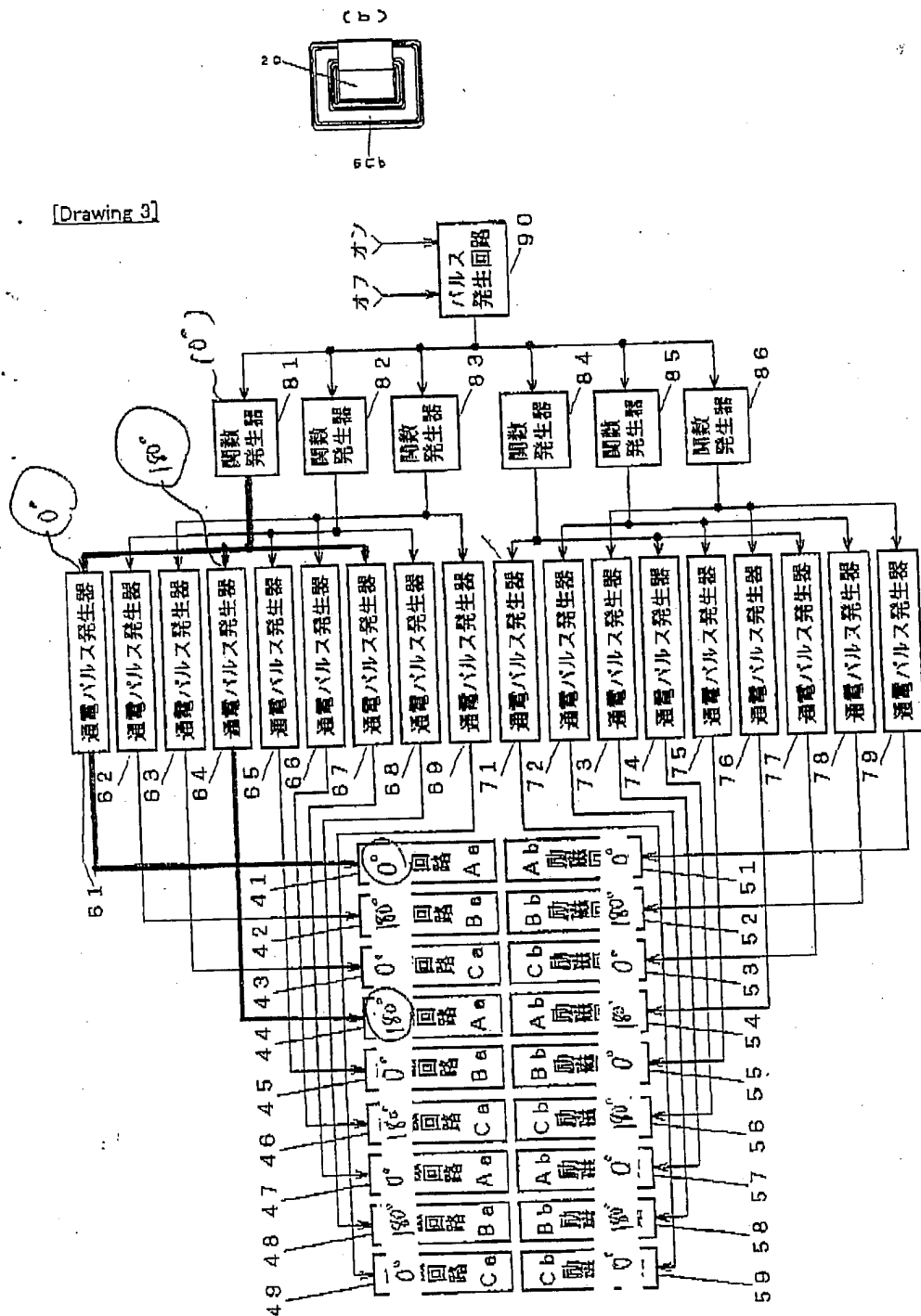
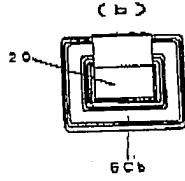
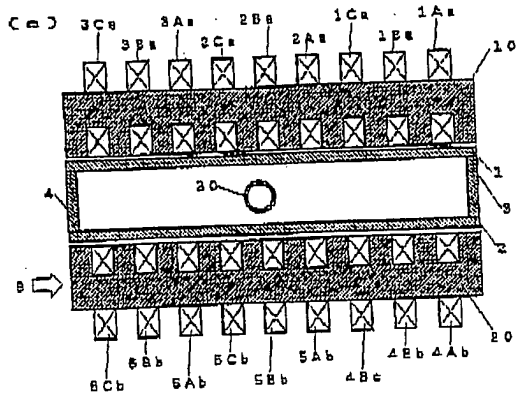


Illustration 3 [Unable]

(This is not a drawing or a drawing amendment)



[Drawing 3]

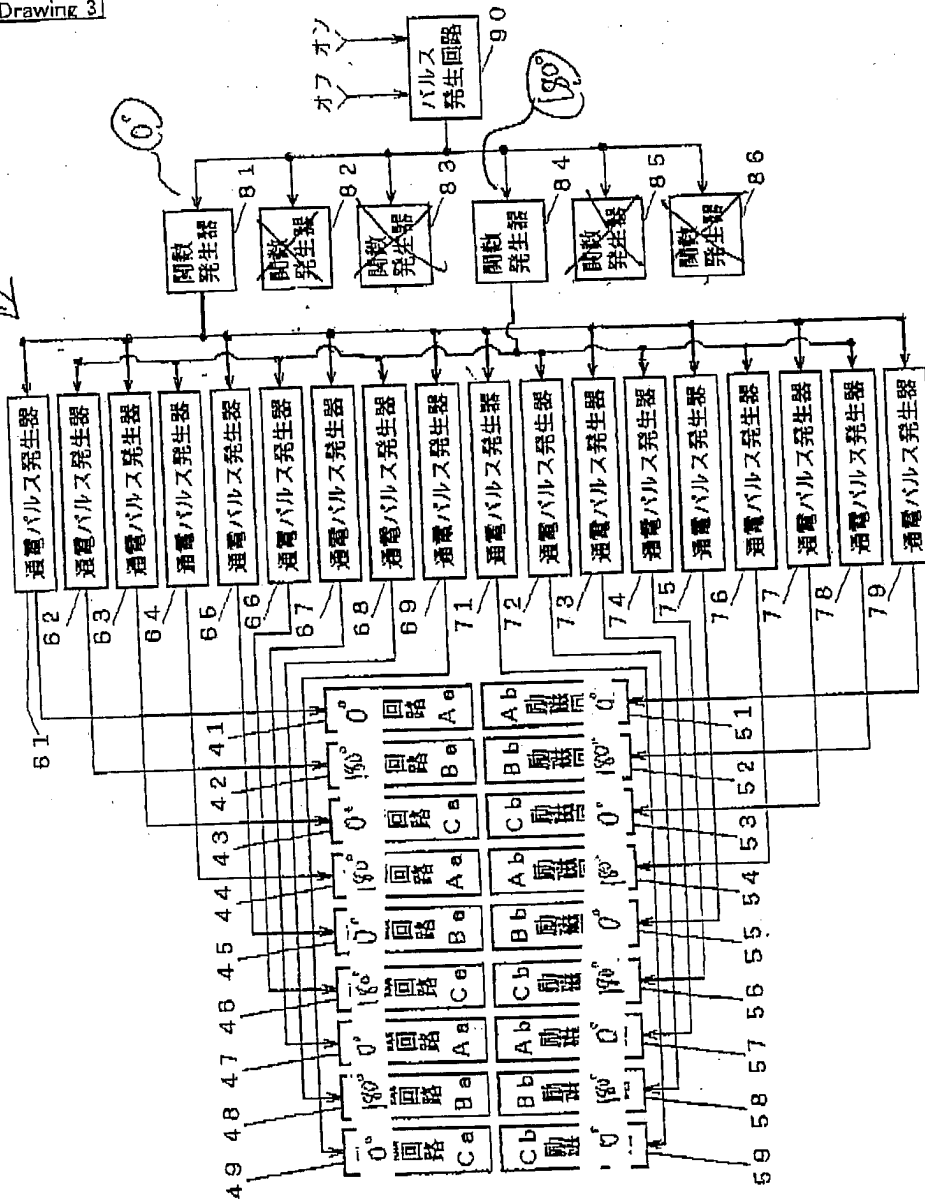


Illustration 4

(This is not a drawing or a drawing amendment)

[Drawing 3]

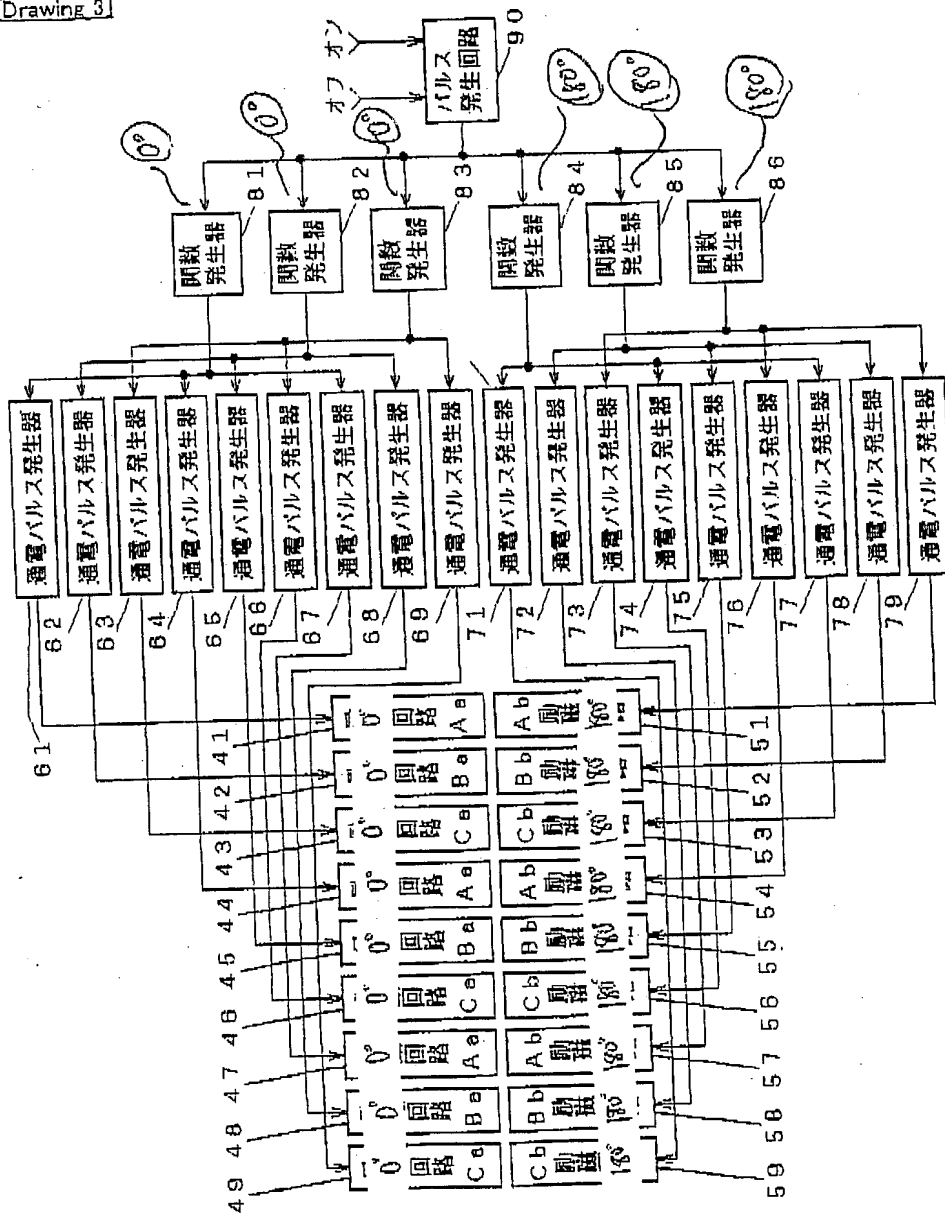


Illustration 5

(This is not a drawing or a drawing amendment)

2005/08/09

